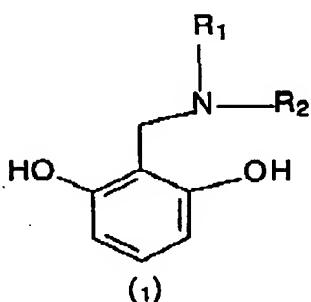


Appl. No. 10/052,966
 Atty. Docket No. G-271ML (CP-1230)
 Amdt. dated 11/23/2004
 Reply to Office Action of 08/23/2004
 Customer No. 27752

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A compound of formula (1):



wherein R₁ and R₂ are each individually is selected from the group consisting of a hydrogen atom, C₁ to C₅ alkyl, C₁ to C₅ mono or dihydroxyalkyl, phenyl or benzyl optionally substituted with a hydroxyl, amino or C₁ to C₃ alkoxy group, and R₂ is selected from the group consisting of C₁ to C₅ alkyl, C₁ to C₅ mono or dihydroxyalkyl, phenyl or benzyl optionally substituted with a hydroxyl, amino or C₁ to C₃ alkoxy group, or R₁ and R₂ together with the nitrogen atom to which they are attached form a C₃ to C₅ saturated or unsaturated ring optionally containing in the ring one or more additional hetero atoms selected from O, S and N atoms, or R₁ and R₂ together with the nitrogen atom to which they are attached form a C₆ saturated or unsaturated ring containing in the ring one or more additional hetero atoms selected from O, S and N atoms.

2. (Currently Amended) A compound of Claim 1 wherein R₁ and R₂ are each individually is selected from the group consisting of a hydrogen atom, a C₁ to C₃ alkyl group, phenyl or benzyl optionally substituted with an alkoxy group, and R₂ is selected from the group consisting of a C₁ to C₃ alkyl group, phenyl or benzyl optionally substituted with an alkoxy group, or R₁ and R₂ together with the nitrogen atom to which they are bound form a piperazine, imidazole, or morpholine ring.

3. (Original) A compound of Claim 2 wherein R₁ is hydrogen and R₂ is phenyl.

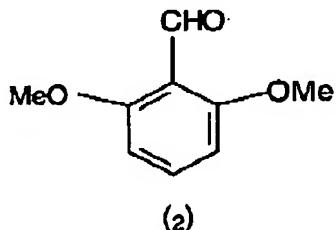
Appl. No. 10/052,966
 Atty. Docket No. G-271ML (CP-1230)
 Amdt. dated 11/23/2004
 Reply to Office Action of 08/23/2004
 Customer No. 27752

4. (Canceled)

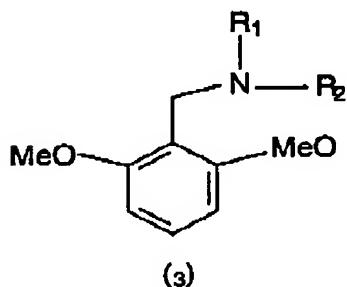
5. (Original) A compound of Claim 1 wherein R₁ is hydrogen and R₂ is methyl.

6. (Original) A compound of Claim 1 wherein R₁ and R₂ are both methyl.

7. (Original) A process for the preparation of a compound of formula (1) of Claim 1 comprising (a) reacting an 2,5-dimethoxy-benzaldehyde of formula (2)

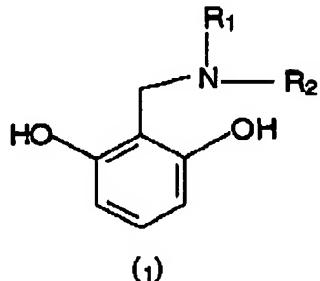


with a reagent of the formula R₁R₂NH and a reductive amination reducing agent to produce a compound of formula (3)



and (b) deprotecting the compound of formula (3) by reacting with a deprotection agent producing a compound of formula (1):

Appl. No. 10/052,966
 Atty. Docket No. G-271ML (CP-1230)
 Amdt. dated 11/23/2004
 Reply to Office Action of 08/23/2004
 Customer No. 27752



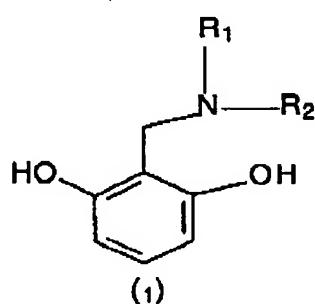
wherein R_1 and R_2 are as defined in Claim 1.

8. (Previously Presented) A process according to Claim 7 wherein R_1 and R_2 are each individually selected from the group consisting of hydrogen atom, a C_1 to C_3 alkyl group, phenyl or benzyl optionally substituted with an alkoxy group, or R_1 and R_2 together with the nitrogen atom to which they are bound form a piperazine, piperidine, imidazole, or morpholine ring.

9. (Original) A process according to Claim 7 wherein R_1 is hydrogen and R_2 is phenyl.

10. (Canceled)

11. (Withdrawn) A hair dye product comprising a hair dyeing composition containing at least one primary intermediate and at least one coupler and a developer composition containing one or more oxidizing agents, the hair dyeing composition containing a coupler of formula (1):



Appl. No. 10/052,966
Atty. Docket No. G-271ML (CP-1230)
Amdt. dated 11/23/2004
Reply to Office Action of 08/23/2004
Customer No. 27752

wherein R₁ and R₂ are each individually selected from the group consisting of hydrogen atoms, C₁ to C₅ alkyl, C₁ to C₃ mono or dihydroxyalkyl, phenyl or benzyl optionally substituted with a hydroxyl, amino or C₁ to C₃ alkoxy group, or R₁ and R₂ together with the nitrogen atom to which they are attached form a C₃ to C₆ saturated or unsaturated ring optionally containing in the ring one or more additional hetero atoms selected from O, S and N atoms.

12. (Withdrawn) A hair dye product according to Claim 11 wherein the hair dyeing composition additionally contains a coupler is selected from the group consisting of: benzene-1,3-diol, 4-chlorobenzene-1,3-diol, naphthalen-1-ol, 2-methyl-naphthalen-1-ol, 2-methyl-benzene-1,3-diol, 2-(2,4-diamino-phenoxy)-ethanol, 2-(3-amino-4-methoxy-phenylamino)-ethanol, 2-[2,4-diamino-5-(2-hydroxy-ethoxy)-phenoxy]-ethanol, and 3-(2,4-diamino-phenoxy)-propan-1-ol, 3-amino-phenol, 5-amino-2-methyl-phenol, 5-(2-hydroxy-ethylamino)-2-methyl-phenol, 3-amino-2-methyl-phenol, 3,4-dihydro-2H-1,4-benzoxazin-6-ol, 4-methyl-2-phenyl-2,4-dihydro-3H-pyrazol-3-one, 1H-indol-6-ol, and 2-aminopyridin-3-ol.

13. (Withdrawn) A hair dye product according to Claim 11 wherein the primary intermediate is selected from the group consisting of: 2-methyl-benzene-1,4-diamine, benzene-1,4-diamine, 2-(2,5-diamino-phenyl)-ethanol, 1-(2,5-diamino-phenyl)-ethanol, 2-[(4-amino-phenyl)-(2-hydroxy-ethyl)-amino]-ethanol, 4-amino-phenol, 4-methylamino-phenol, 4-amino-3-methyl-phenol, 1-(5-amino-2-hydroxy-phenyl)-ethane-1,2-diol, 2-amino-phenol, 2-amino-5-methyl-phenol, 2-amino-6-methyl-phenol, N-(4-amino-3-hydroxy-phenyl)-acetamide, pyrimidine-2,4,5,6-tetramine, 2-(4,5-diamino-1H-pyrazol-1-yl)ethanol, 1-(4-methylbenzyl)-1H-pyrazole-4,5-diamine, and 1-(benzyl)-1H-pyrazole-4,5-diamine.

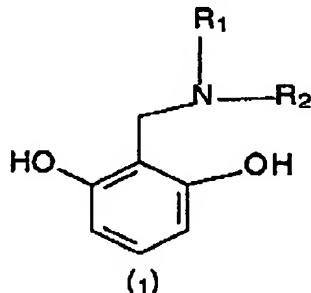
14. (Withdrawn) A hair dye product according to Claim 13 wherein the hair dyeing composition additionally comprises a coupler selected from the group consisting of: benzene-1,3-diol, 4-chlorobenzene-1,3-diol, naphthalen-1-ol, 2-methyl-naphthalen-1-ol, 2-methyl-benzene-1,3-diol, 2-(2,4-diamino-phenoxy)-ethanol, 2-(3-amino-4-methoxy-phenylamino)-ethanol, 2-[2,4-diamino-5-(2-hydroxy-ethoxy)-phenoxy]-ethanol, and 3-(2,4-diamino-phenoxy)-propan-1-ol, 3-amino-phenol, 5-amino-2-methyl-phenol, 5-(2-

Appl. No. 10/052,966
 Atty. Docket No. G-271ML (CP-1230)
 Amdt. dated 11/23/2004
 Reply to Office Action of 08/23/2004
 Customer No. 27752

hydroxy-ethylamino)-2-methyl-phenol, 3-amino-2-methyl-phenol, 3,4-dihydro-2H-1,4-benzoxazin-6-ol, 4-methyl-2-phenyl-2,4-dihydro-3H-pyrazol-3-one, 1H-indol-6-ol, and 2-aminopyridin-3-ol.

15. (Withdrawn) A hair dye product according to Claim 11 wherein R₁ and R₂ are each individually selected from the group consisting of hydrogen atom, a C₁ to C₃ alkyl group, phenyl or benzyl optionally substituted with an alkoxy group, or R₁ and R₂ together with the nitrogen atom to which they are bound form a piperazine, piperidine, imidazole, or morpholine ring.

16. (Withdrawn) In a hair dyeing system wherein at least one primary intermediate is reacted with at least one coupler in the presence of an oxidizing agent to produce an oxidative hair dye, the improvement wherein the at least one coupler comprises a compound of the formula (1):



wherein R₁ and R₂ are each individually selected from the group consisting of hydrogen atoms, C₁ to C₅ alkyl, C₁ to C₃ mono or dihydroxyalkyl, phenyl or benzyl optionally substituted with a hydroxyl, amino or C₁ to C₃ alkoxy group, or R₁ and R₂ together with the nitrogen atom to which they are attached form a C₃ to C₆ saturated or unsaturated ring optionally containing in the ring one or more additional hetero atoms selected from O, S and N atoms.

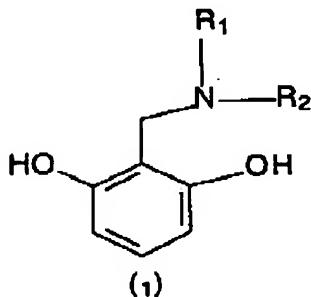
17. (Withdrawn) A system according to Claim 16 wherein R₁ and R₂ are each individually selected from the group consisting of hydrogen atom, a C₁ to C₃ alkyl group,

Appl. No. 10/052,966
 Atty. Docket No. G-271ML (CP-1230)
 Armdt. dated 11/23/2004
 Reply to Office Action of 08/23/2004
 Customer No. 27752

phenyl or benzyl optionally substituted with an alkoxy group, or R₁ and R₂ together with the nitrogen atom to which they are bound form a piperazine, piperidine, imidazole, or morpholine ring.

18. (Withdrawn) A hair dyeing composition comprising, in a suitable carrier or vehicle, an effective hair dyeing amount of:

- (a) at least one primary intermediate, and
- (b) at least one coupler comprising a compound of the formula (1):



wherein R₁ and R₂ are each individually selected from the group consisting of hydrogen atoms, C₁ to C₅ alkyl, C₁ to C₅ mono or dihydroxyalkyl, phenyl or benzyl optionally substituted with a hydroxyl, amino or C₁ to C₃ alkoxy group, or R₁ and R₂ together with the nitrogen atom to which they are attached form a C₃ to C₆ saturated or unsaturated ring optionally containing in the ring one or more additional hetero atoms selected from O, S and N atoms.

19. (Withdrawn) A hair dyeing composition according to Claim 18 wherein the hair dyeing composition additionally contains at least one coupler selected from the group consisting of: benzene-1,3-diol, 4-chlorobenzene-1,3-diol, naphthalen-1-ol, 2-methyl-naphthalen-1-ol, 2-methyl-benzene-1,3-diol, 2-(2,4-diamino-phenoxy)-ethanol, 2-(3-amino-4-methoxy-phenylamino)-ethanol, 2-[2,4-diamino-5-(2-hydroxy-ethoxy)-phenoxy]-ethanol, and 3-(2,4-diamino-phenoxy)-propan-1-ol, 3-amino-phenol, 5-amino-2-methyl-phenol, 5-(2-hydroxy-ethylamino)-2-methyl-phenol, 3-amino-2-methyl-phenol,

Appl. No. 10/052,966
Atty. Docket No. G-271ML (CP-1230)
Amdt. dated 11/23/2004
Reply to Office Action of 08/23/2004
Customer No. 27732

3,4-dihydro-2H-1,4-benzoxazin-6-ol, 4-methyl-2-phenyl-2,4-dihydro-3H-pyrazol-3-one, 1H-indol-6-ol, and 2-aminopyridin-3-ol.

20. (Withdrawn) A hair dyeing composition according to Claim 18 wherein the at least one primary intermediate is selected from the group consisting of: benzene-1,3-diol, 4-chlorobenzene-1,3-diol, naphthalen-1-ol, 2-methyl-naphthalen-1-ol, 2-methyl-benzene-1,3-diol, 2-(2,4-diamino-phenoxy)-ethanol, 2-(3-amino-4-methoxy-phenylamino)-ethanol, 2-[2,4-diamino-5-(2-hydroxy-ethoxy)-phenoxy]-ethanol, and 3-(2,4-diamino-phenoxy)-propan-1-ol, 3-amino-phenol, 5-amino-2-methyl-phenol, 5-(2-hydroxy-ethylamino)-2-methyl-phenol, 3-amino-2-methyl-phenol, 3,4-dihydro-2H-1,4-benzoxazin-6-ol, 4-methyl-2-phenyl-2,4-dihydro-3H-pyrazol-3-one, 1H-indol-6-ol, and 2-aminopyridin-3-ol.

21. (Withdrawn) A hair dyeing composition according to Claim 20 additionally comprising a coupler selected from the group consisting of: benzene-1,3-diol, 4-chlorobenzene-1,3-diol, naphthalen-1-ol, 2-methyl-naphthalen-1-ol, 2-methyl-benzene-1,3-diol, 2-(2,4-diamino-phenoxy)-ethanol, 2-(3-amino-4-methoxy-phenylamino)-ethanol, 2-[2,4-diamino-5-(2-hydroxy-ethoxy)-phenoxy]-ethanol, and 3-(2,4-diamino-phenoxy)-propan-1-ol, 3-amino-phenol, 5-amino-2-methyl-phenol, 5-(2-hydroxy-ethylamino)-2-methyl-phenol, 3-amino-2-methyl-phenol, 3,4-dihydro-2H-1,4-benzoxazin-6-ol, 4-methyl-2-phenyl-2,4-dihydro-3H-pyrazol-3-one, 1H-indol-6-ol, and 2-aminopyridin-3-ol.

22. (Withdrawn) A hair dyeing composition of Claim 18 wherein R₁ and R₂ are each individually selected from the group consisting of hydrogen atom, a C₁ to C₃ alkyl group, phenyl or benzyl optionally substituted with an alkoxy group, or R₁ and R₂ together with the nitrogen atom to which they are bound form a piperazine, piperidine, imidazole, or morpholine ring.

23. (Withdrawn) A process for dyeing hair comprising forming a hair dye product composition by mixing a developer composition and a hair dyeing composition as defined in Claim 18, applying to the hair an amount of the hair dye product composition effective

Appl. No. 10/052,966
Atty. Docket No. G-271ML (CP-1230)
Amdt. dated 11/23/2004
Reply to Office Action of 08/23/2004
Customer No. 27752

to dye the hair, permitting the hair dye product composition to contact the hair for period of time effective to dye the hair, and removing the hair dye product composition from the hair.

24. (Withdrawn) A process according to Claim 23 wherein R₁ and R₂ are each individually selected from the group consisting of hydrogen atom, a C₁ to C₃ alkyl group, phenyl or benzyl optionally substituted with an alkoxy group, or R₁ and R₂ together with the nitrogen atom to which they are bound form a piperazine, piperidine, imidazole, or morpholine ring.